

A NEW *ALLOCAPNIA* FROM WEST VIRGINIA
(PLECOPTERA: CAPNIIDAE)

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Abstract.—*Allocapnia frumi*, n. sp., is described from specimens collected in West Virginia. It is included in the *forbesi* Group and is closely related to *A. curiosa* Frison. A holotype male, allotype, and 37 paratypes are designated.

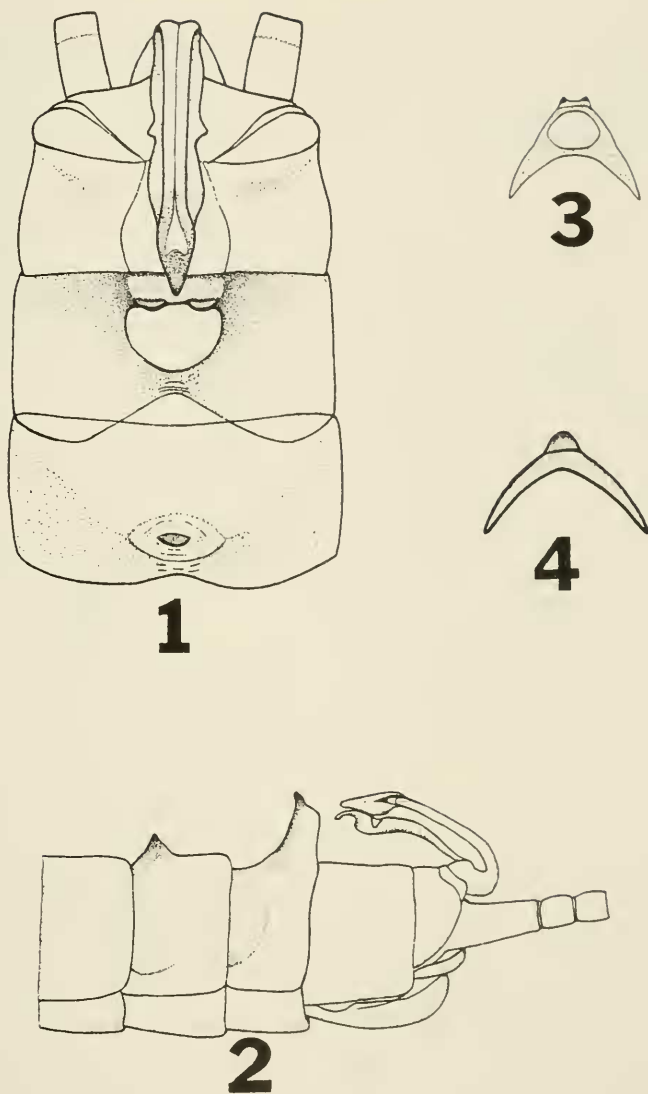
During an investigation of the winter stoneflies from Fayette, Greenbrier, and Pocahontas counties, West Virginia, an undescribed species of *Allocapnia* was discovered. The following description and morphological terms generally follow those of Ross and Ricker (1971).

Allocapnia frumi Kirchner, NEW SPECIES

Male (Figs. 1-4).—Dark brown, almost black. Wings variable in length, reaching from 2nd to 5th segment of abdomen. Length of body 5-7 mm. Anterior ½ of 7th tergum produced into a conical process. Dorsal process of 8th tergum with apex angled slightly forward with well separated lobes forming a deep trough, anterior portion with a distinct white oval membranous area. Apical segment of upper limb of epiproct about ⅓ length of entire process and diamond shaped in dorsal aspect. Lower limb of epiproct with apical segment moderately deep, its tip narrowed into a thin tongue.

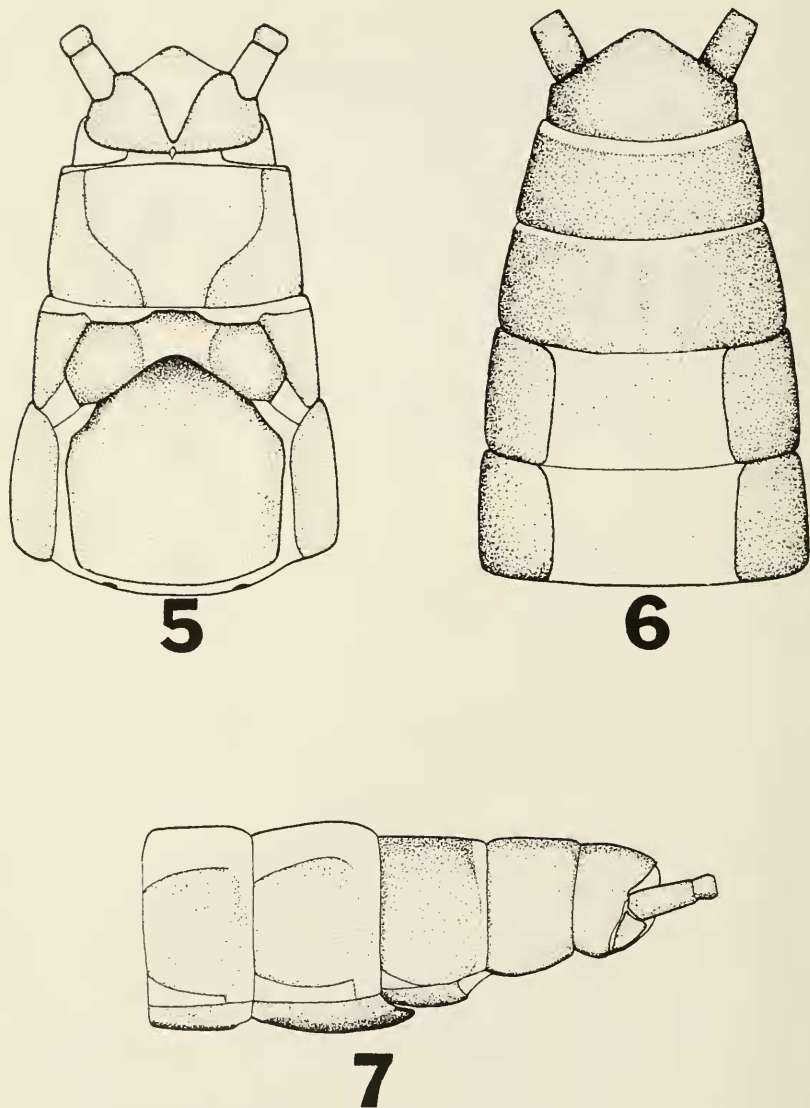
Female (Figs. 5-7).—Dark brown, almost black. Wings variable in length, reaching from 3rd to 9th segment of abdomen. Length of body 6-8 mm. Eighth tergum entirely sclerotized to nearly so, or a mesal membranous area extending its whole length. Seventh and 8th sterna heavily sclerotized. Seventh with posterior margin projecting well over anterior margin of 8th sternum. Eighth sternum with conspicuous lateral lobes, mesal area wide and flat, its apex produced into a truncate lobe.

¹ The views of the author do not purport to reflect the position of the Department of the Army or the Department of Defense.



Figs. 1-4. *Allocapnia frumi* (male), terminalia. 1, Dorsal. 2, Lateral. 3, Dorsal process of 8th tergum, posterior aspect. 4, Dorsal process of 7th tergum, posterior aspect.

Type material.—Holotype ♂ and Allotype, West Virginia, Greenbrier Co., Monongahela National Forest, Coats Run of North Fork Cherry River, 8.0 km east of Richwood, Rt. 39, 14 March 1981, R. F. Kirchner. Paratypes: WEST VIRGINIA: Greenbrier Co., Coats Run, 3 ♂, 17 March 1979, R. F.



Figs. 5-7. *Allocapnia frumi* (female), terminalia. 5, Ventral. 6, Dorsal. 7, Lateral.

Kirchner and R. M. Meyer; 2♂, 1♀, 23 February 1980, R. F. Kirchner; 2♂, 3♀, 16 March 1980, R. F. Kirchner, R. M. Meyer, and V. J. Marchese; 1♂, 28 March 1981, R. F. Kirchner and V. J. Marchese. Pocahontas Co., Monongahela National Forest, Hills Creek, 24.1 km east of Richwood, Rt.

39, 1♂, 16 March 1980, R. F. Kirchner, R. M. Meyer and V. J. Marchese. Pocahontas Co., Monongahela National Forest, Sugar Creek of Williams River, Forest Service Rt. 76, 5♀, 8 May 1980, R. F. Kirchner; 3♂, 9♀, 3 May 1981, R. F. Kirchner and V. J. Marchese. Fayette Co., Big Hollow of Paint Creek, 3.2 km northwest of Kingston, W. Va. turnpike, 3♂, 24 January 1980, R. F. Kirchner and L. K. Evans; 1♂, 3♀, 27 February 1981, R. F. Kirchner.

The holotype, allotype, and two paratypes will be deposited in the National Museum of Natural History, Washington, D.C. (type No. 100222). Other paratypes will be deposited in the collections of the Illinois Natural History Survey, Champaign; Virginia Polytechnic Institute and State University, Blacksburg; C. H. Nelson, University of Tennessee at Chattanooga; P. P. Harper, University of Montreal; and my personal collection.

Diagnosis.—*Allocapnia frumi* is a member of the *forbesi* group of Ross and Ricker (1971), which includes *A. curiosa* Frison, *A. forbesi* Frison, *A. maria* Hanson, *A. minima* (Newport), *A. ozarkana* Ross, and *A. pechumani* Ross and Ricker. Within this group, *A. frumi* is most closely related to *A. curiosa* in having the male terga highly ornamented and the female 7th sternum well produced over the 8th sternum. The male of this new species can be separated from others in the group by the prominent oval membranous area of the 8th tergum (Fig. 1) (one male had an oval membranous area on both the 7th and 8th terga), which is lacking in males of the other species. The female of *A. frumi* may be distinguished by a wide truncate mesal lobe of the 8th sternum (Fig. 5). In *A. curiosa*, the mesal area is rounded posteriorly and without a mesal lobe (Ross and Ricker, 1971, Fig. 69).

Etymology.—This species is named in honor of Prof. W. Gene Frum, Department of Biological Sciences, Marshall University.

Remarks.—*Allocapnia frumi* was collected from first order mountain streams ranging in altitude from 427 m in Fayette County to 1220 m in Pocahontas County. The dominant riparian vegetation varied from cove hardwoods to nearly pure stands of red spruce. Other Capniidae associated with this species included *A. curiosa* Frison, *A. frisoni* Ross and Ricker, *A. harperi* Kirchner, *A. nivicola* (Fitch), and *Paracapnia angulata* Hanson. *Allocapnia harperi* was previously known only from the type-locality in Virginia (Kirchner, 1980). It was collected from Greenbrier and Pocahontas counties during this study.

ACKNOWLEDGMENTS

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LITERATURE CITED

- Kirchner, R. F. 1980. A new *Allocapnia* from Virginia (Plecoptera: Capniidae). Entomol. News. 91: 19-21.
- Ross, H. H. and W. E. Ricker. 1971. The classification, evolution, and dispersal of the winter stonefly genus *Allocapnia*. Ill. Biol. Monogr. 45: 1-166.